

LESSON
10•1
Math Boxes


1. You can use the formula $s = 180 * (n - 2)$ to find the sum of the interior angle measures of a polygon having n sides.

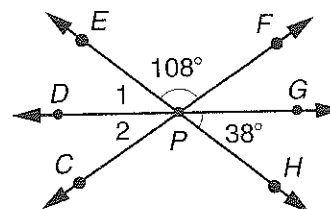
For example, the sum of the interior angle measures (s) of a 7-sided polygon (n) is $180 * (7 - 2) = 180 * 5 = 900$, or 900° .

Suppose the sum of the interior angle measures of a polygon is $1,800^\circ$. How many sides does this polygon have?

_____ sides



2. Without using a protractor, find the measure of each numbered angle.



$m\angle 1 =$ _____

$m\angle 2 =$ _____



3. Multiply or divide. Write your answers in simplest form.

a. $3\frac{8}{9} * 4\frac{5}{6} =$ _____

b. _____ $= \frac{1}{5} * \frac{38}{3}$

c. _____ $= \frac{24}{15} \div \frac{1}{2}$

d. _____ $= \frac{3}{7} * \frac{22}{3}$

e. $\frac{24}{8} \div \frac{12}{7} =$ _____



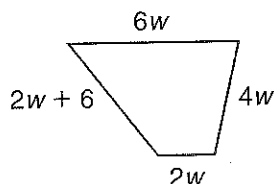
4. Complete the table. Write a number sentence to describe the relationship between the numbers in the table.

x	y
12	-4
6	
	$\frac{1}{3}$
-3	1
	6

Number sentence _____



5. Write an expression for the perimeter of the figure. Combine like terms.



Perimeter = _____



6. Tell whether each of the following is true or false.

a. $1 \text{ cm} > 1 \text{ in.}$ _____

b. $1 \text{ m} > 1 \text{ yd}$ _____

c. $200 \text{ cm} > 1 \text{ ft}$ _____

d. $10 \text{ mm} > 1 \text{ in.}$ _____

e. $5 \text{ ft} < 100 \text{ cm}$ _____



LESSON
10•2**Math Boxes**

1. Apply the order of operations to evaluate each expression.

a. $15 - 3.3 * 4 =$ _____

b. $\frac{20}{4} * 5 + (-8) * 2 =$ _____

c. $0.01 + 0.01 * 10 + 0.01 =$ _____

d. $8 * (2 + -5) - 4 =$ _____

e. $7 * 3^2 - \frac{10}{2} =$ _____



2. Estimate each quotient or product.

a. $5.25 \div 2.003$ About _____

b. $4.29 * 67.1$ About _____

c. $80.25 \div 18.93$ About _____

d. $52.31 * 19.9$ About _____



3. Convert between number-and-word and standard notations.

a. 2,500,000 _____

b. 0.3 thousand _____

c. 7,400,000,000,000

d. 1,234.5 million

4. Write the following in standard notation.

a. $5.38 * 10^7 =$ _____

b. $6.91 * 10^{-3} =$ _____

c. $3.04 * 10^0 =$ _____

d. _____ $= 9.9011 * 10^5$

e. $7.2 * 10^{-6} =$ _____



5. Write an algebraic expression for the following situation.

Rafael is twice as old as his brother Jorge was 3 years ago. Jorge is j years old now. How old is Rafael?

Expression _____



6. Fill in the blanks to complete each number sentence.

a. $8(40 + 5) = (\text{ } * 40) + (8 * \text{ })$

b. $(10 - 3)6 = (10 * \text{ }) - (3 * \text{ })$

c. $(9 * 50) + (9 * \text{ }) = 9(\text{ } + 4)$

d. $(7 * 20) - (7 * 3) = \text{ }(\text{ } - \text{ })$



LESSON
10-3**Rotation Symmetry**

Cut out the figures on Activity Sheet 7. Cut along the dashed lines only. Using the procedure demonstrated by your teacher, determine the number of different ways in which you can rotate (but not flip) each figure so the image exactly matches the preimage. Record the order of rotation symmetry for each figure.

1.



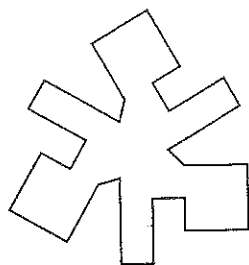
Order of rotation symmetry _____

2.



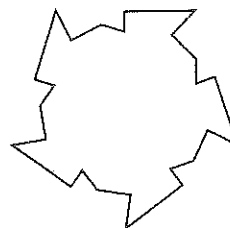
Order of rotation symmetry _____

3.



Order of rotation symmetry _____

4.



Order of rotation symmetry _____

Try This

5. The 10 of hearts has point symmetry. When the card is rotated 180° , it looks the same as it did in the original position.

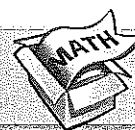
original
position 180°
rotation

The 9 of spades does not have point symmetry. When the card is rotated 180° , it does not look the same as it did in the original position.

original
position 180°
rotation

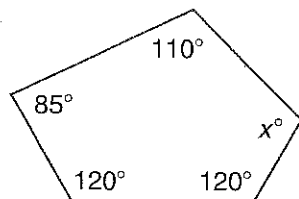
Which of the cards in an ordinary deck of playing cards (not including face cards) have point symmetry? _____

To learn a magic trick that uses point symmetry with playing cards, see page 355 in the *Student Reference Book*.

LESSON
10•3
Math Boxes


1. You can use the formula $s = 180 * (n - 2)$ to find the sum of the interior angle measures of a polygon having n sides.

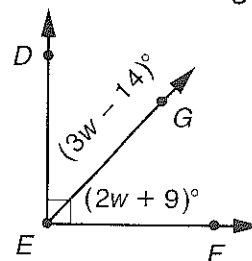
Find the value of x in the figure below.



$$x = \underline{\hspace{2cm}}$$



2. Write an equation that describes the angle relationships shown. Then solve it.



Equation $\underline{\hspace{2cm}}$

$$w = \underline{\hspace{2cm}}$$

$$m\angle DEG = \underline{\hspace{2cm}}$$

$$m\angle GEF = \underline{\hspace{2cm}}$$



3. Multiply or divide. Write your answers in simplest form.

a. $1\frac{3}{7} * 2\frac{1}{5} = \underline{\hspace{2cm}}$

b. $\underline{\hspace{2cm}} = 3\frac{6}{8} * \frac{28}{6}$

c. $\underline{\hspace{2cm}} = 5\frac{1}{10} \div 2\frac{5}{4}$

d. $\underline{\hspace{2cm}} = \frac{46}{3} \div 20$

e. $5\frac{3}{8} * \frac{1}{8} = \underline{\hspace{2cm}}$

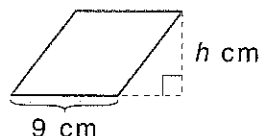


4. Complete the table. Write a number sentence to describe the relationship between the numbers in the table.

x	y
100	
30	$\frac{3}{2}$
10	
-2	$-\frac{1}{10}$
	$-\frac{3}{4}$

Number sentence $\underline{\hspace{2cm}}$

5. The area of the parallelogram shown below is 63 cm^2 . Which equation can you use to find its height? Circle the best answer.



A. $\frac{9h}{2} = 63$ B. $2h + 18 = 63$

C. $9h = 63$ D. $\frac{9}{63} = h$



6. Tell whether each of the following is true or false.

a. $1 \text{ L} > 1 \text{ pt}$ $\underline{\hspace{2cm}}$

b. $1 \text{ mL} < 1 \text{ fl oz}$ $\underline{\hspace{2cm}}$

c. $1 \text{ L} > 1 \text{ gal}$ $\underline{\hspace{2cm}}$

d. $1 \text{ kg} > 1 \text{ lb}$ $\underline{\hspace{2cm}}$

e. $1 \text{ g} < 1 \text{ oz}$ $\underline{\hspace{2cm}}$



LESSON
10•4
Math Boxes


1. Apply the order of operations to evaluate each expression.

a. $4 * \frac{7}{2} + 7 =$ _____

b. $8 + (-15) * 6 =$ _____

c. $\frac{6^2}{9} + 3 * 4 =$ _____

d. $8 + 7 - (-2) * 5 =$ _____

e. $12 / 6 + 9 * 3 =$ _____



2. Estimate each quotient or product.

a. $44.2 * 37$ About _____

b. $708 \div 0.52$ About _____

c. $625.7 \div 8.3$ About _____

d. $99.4 * 3.7$ About _____



3. Convert between number-and-word and standard notations.

a. 6,500,000 _____

b. 0.75 billion _____

c. 12,500,000,000,000

d. 57.25 million

4. Write the following in standard notation.

a. $2.73 * 10^5 =$ _____

b. $1.03 * 10^{-4} =$ _____

c. $9.855 * 10^0 =$ _____

d. _____ $= 4.226 * 10^6$

e. $5.435 * 10^{-2} =$ _____



5. Chen ran 2 miles more than two-thirds as far as Kayla ran. If Kayla ran k miles, how many miles did Chen run?

Which algebraic expression can you use to answer the question? Fill in the circle next to the best answer.

Ⓐ $\frac{2}{3}k + 2$

Ⓑ $k + \frac{2}{3}$

Ⓒ $2k + \frac{2}{3}$

Ⓓ $2k \div 3$



6. Fill in the blanks to complete each number sentence.

a. $9(20 + 7) = (\text{ } * 20) + (9 * \text{ })$

b. $(50 - 5)3 = (50 * \text{ }) - (5 * \text{ })$

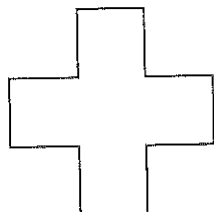
c. $(8 * 70) + (8 * \text{ }) = 8(\text{ } + 7)$

d. $(6 * 50) - (6 * 9) = \text{ } (\text{ } - \text{ })$



LESSON
10•5
Math Boxes

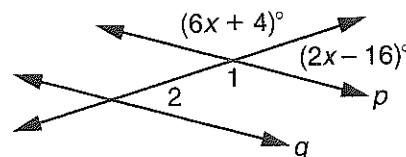

1. Draw the line(s) of reflection symmetry for the figure below. Then determine its order of rotation symmetry.



Order of rotation symmetry _____



2. Lines p and q are parallel. Write an equation you can use to find the value of x .



Equation _____

 $x =$ _____

 $m\angle 1 =$ _____

 $m\angle 2 =$ _____


3. Multiply or divide. Write your answers in simplest form.

a. $1\frac{3}{5} * (-2\frac{1}{2}) =$ _____

b. _____ $= (-\frac{7}{12})(-\frac{3}{84})$

c. _____ $= 5\frac{1}{10} \div 2\frac{5}{4}$

d. _____ $= -1\frac{1}{3} \div (-\frac{5}{9})$

e. $-3\frac{2}{3} \div (-2\frac{4}{9}) =$ _____



4. Complete the table. Write a number sentence to describe the relationship between the numbers in the table.

x	y
10	23
4	
$\frac{1}{2}$	4
	3
-3	-3

Number sentence _____

5. Tennis balls with a diameter of 2.5 in. are packaged 3 to a can. The can is a cylinder. Find the volume of the space in the can that is *not* occupied by tennis balls. Assume that the balls touch the sides, top, and bottom of the can.

Use the formula $V = \pi r^3$ and 3.14 for π . Round your answer to the nearest hundredth.


 Volume _____
 (not occupied by balls) (unit)


6. Complete.

a. $1 \text{ ft}^2 =$ _____ in.^2

b. $1 \text{ m}^2 =$ _____ cm^2

c. $1 \text{ yd}^2 =$ _____ ft^2

d. $1 \text{ ft}^3 =$ _____ in.^3

e. $1 \text{ yd}^3 =$ _____ ft^3

